

A LIBRARY OF SOFTWARE FOR THE **IBM PC & PCjr**

11/11 DISK

THE MAGAZINE ON DISKETTE

VOL. 1 NO. 7

\$34.95

**USER'S
MANUAL**

**PRINT
FORMATTER:
FORMAT
YOUR PRINTOUTS
AS YOU LIKE**

**CURVE FITTER:
FIT REGRESSION
CURVES TO
PLOTTED DATA**

**FUNNELS AND
BUCKETS:
PRACTICE BASIC
MATH EXERCISES IN
GAME FORMAT**

**WINE DATA 3:
EXPLORE
THE WINE
VARIETIES OF
CALIFORNIA**





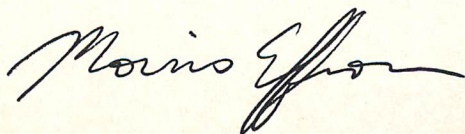
FROM THE EDITOR

Are you computer literate? The question doesn't yet dominate cocktail party conversation, but it does address one of society's fastest-growing, non-medical anxieties. With the continuing encroachment of computers into all aspects of our lives, the fear of becoming functionally illiterate, of being unable to survive in a computer-based society, has grown. The media's tremendous attention to computer developments and their implications has subtly nurtured our fears of our own impending obsolescence, and worse still, our fears of raising non-competitive children.

Certainly the computer revolution is here; yet much of the attendant talk about computer literacy has missed the point. With other technological innovations as a model, attention has been focused on the new skills that will be required to operate computers, fostering the extreme conclusion that we will all need to learn to program. The computer, however, is unique in its inherent flexibility, both in terms of what it can be used for, and how it can be applied to those uses. It is this latter flexibility in operation, often referred to as the "user interface", that reveals the erroneous interpretation of computer literacy as technical mastery. People do not have to be molded to suit the way a computer operates; rather the computer must be molded to the way people work.

The key to achieving this freedom is software, and it is one of the most exciting challenges of *PC Disk Magazine*. Since we publish such a large volume of software, and try to reach the broadest audience possible, we are tremendously concerned with finding and designing programs that are truly easy to use. We are continuously refining our ideas about the natural logic of a program's operation, the simplest means of running a program, the most effective way of providing help, and related issues. Even though we are not inventing new kinds of user interface (we await the natural language interface as eagerly as everyone else), we nevertheless have a special opportunity and responsibility to develop superior standards within the limits of existing software technology.

To do so, we need your help. After all, you are the ones who use our software. Let us know what you think of the programs, how easy they are to learn and use. Are the programs logically designed? Do they perform useful tasks? Is their operation simple and consistent? Do they provide adequate error handling and help information? Is the documentation clear and complete? Give us the benefit of your criticisms and suggestions. With your help, we can realize the proper meaning of "computer literacy"—knowing what a computer can do, not how to do it.





BUSINESS

| | |
|-------------------|----|
| CURVE FITTER | 11 |
| By Scott Camazine | |

PERSONAL

| | |
|------------------|----|
| LABEL MAKER | 15 |
| By David Johnson | |

| | |
|----------------------------|----|
| WINE DATA 3 | 21 |
| By Morris Effron | |
| Researched by Laura Ninger | |

UTILITIES

| | |
|---------------------|----|
| FILE MANAGER III | 25 |
| By C-Level Software | |

| | |
|-------------------|----|
| PRINT FORMATTER | 29 |
| By Tyler Software | |

EDUCATION

| | |
|---------------------|----|
| FUNNELS AND BUCKETS | 33 |
| By Data Sage | |

GAMES

| | |
|---------------|----|
| JIG JAGS 3 | 37 |
| By Ron Dubren | |

| | |
|----------------------|----|
| WAR IN THE FALKLANDS | 41 |
| By Robert Alter | |

DEPARTMENTS

| | |
|-----------------------|-----------|
| FROM THE EDITOR | 1 |
| TECHNICAL PREFACE | 5 |
| PUBLISHING PHILOSOPHY | 10 |
| SUBMISSION PROCEDURE | 20 |
| PROBLEM RECOVERY | 24 |
| SUBSCRIPTION OFFER | 47 |
| COMING UP | 48 |

TERMS AND CONDITIONS

LIMITED WARRANTY

In the unlikely event that the disk contained in this issue is defective in manufacture, return it within 30 days after purchase or receipt to *PC Disk Magazine*, P.O. Box 5930, Cherry Hill, NJ 08034, and it will be replaced at no charge. Merchandise for exchange must be accompanied by proof of purchase or a subscription label.

The publisher shall have no liability or responsibility to any purchaser or subscriber or to any other person or entity with respect to any liability, loss or damage directly or indirectly arising out of the use of the disk and the programs contained in this issue, including, but not limited to, any loss of business or any other incidental or consequential damages.

COPYRIGHT

Programs and Documentation Copyright © 1984 Ziff-Davis Publishing Company. All rights of reproduction in all forms and media strictly reserved.

The original purchaser/subscriber only is authorized to make copies solely for use in his/her own computer. Distribution, transmission, or transfer of copies to any other person is an infringement of copyright.

PC DISK

THE MAGAZINE ON DISKETTE

PUBLISHER

André M.J. Van Hattum

EDITORIAL

Editor: Morris L. Effron

Software Editor: Dale Benzer

Managing Editor: Bohdan "Bo" Shmorhay

Documentation Editor: Bruce L. Murphy

Copyeditor: Laura Ninger

Assistant Editors: Peter Carey, Anne Condon, Matt Dolph, Jack Halapin, Dean Hannotte, Alfred Poor, David M. Wolff

ART & DESIGN

Borys Patchowsky

Cristina Botta, Susan Molloy, Chris Spollen, Thomas Stvan

CIRCULATION

Subscription Director: Chet Klimuszko

New Business Manager: Eric A. Bernhard

Renewal and Billing Manager: Shane Boel

Retail Sales Manager: Gerald Grossman

CONSUMER COMPUTER AND ELECTRONICS MAGAZINE DIVISION

President: Larry Sporn

Vice President, Marketing: Jeff Hammond

Vice President, Circulation: Carole Mandel

Vice President, General Manager: Eileen G. Markowitz

Vice President, Licensing and Special Projects: Jerry Schneider

Vice President, Creative Services: Herbert Stern

Creative Director: Peter J. Blank

Editorial Director: Jonathan D. Lazarus

Marketing Manager: Ronni Sonnenberg

ZIFF-DAVIS PUBLISHING COMPANY

President: Richard P. Friese *President, Consumer Magazine Division:* Albert S. Traina *Executive Vice President, Marketing and Circulation:* Paul Chook *Senior Vice Presidents:* Philip T. Heffernan, Sidney Holtz, Edward D. Muhlfeld, Philip Sine *Vice Presidents:* Baird Davis, George Morrissey, Rory Parisi, William L. Phillips *Treasurer:* Selwyn Taubman *Secretary:* Bertram A. Abrams

PC Disk Magazine is published 9 times per year, by Ziff-Davis Publishing Company, One Park Avenue, New York, N.Y. 10016. Subscriptions are available at \$149.00 for 6 issues. POSTMASTER: send address changes to *PC Disk Magazine*, P.O. Box 5930, Cherry Hill, NJ 08034

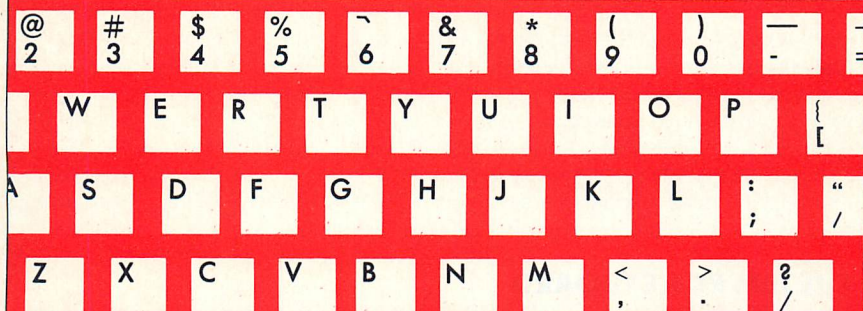
Editorial and Business Office: One Park Ave., New York, NY 10016. Editorial (212) 725-7770. For subscription inquiries and service write to *PC Disk Magazine*, P.O. Box 5930, Cherry Hill, NJ 08034

PC Disk Magazine is an independent journal, not affiliated in any way with International Business Machines Corporation. IBM is a registered trademark of International Business Machines Corp. Entire contents copyright © 1984 Ziff-Davis Publishing Company. All rights reserved; reproduction in whole or in part without permission is prohibited.

ISBN # 087165-107-6 PC DISK MAGAZINE VOLUME 1 NUMBER 7



TECHNICAL PREFACE



To help our readers make the most of PC Disk Magazine, we would like to provide some background information concerning the editorial diskette, the accompanying manual, and how to use both. We don't expect all of the following topics to be of interest to all our readers. Nevertheless we prefer to err on the side of comprehensive support, rather than leave any of our readers confused or bewildered. So we encourage everyone to at least skim this section to assure a solid background for the use of PC Disk Magazine.

USAGE REQUIREMENTS

PC Disk Magazine has been designed for use on an IBM Personal Computer with a minimal set of hardware components: a keyboard, a monitor, and the computer itself. Running DOS 1.1, a minimum of 64K of main memory is required. Under DOS 2.0 and DOS 2.1, a minimum of 128K is required. The display unit can be a monochrome display adapter and monitor, or the color graphics display adapter with either a color monitor, a black and white monitor, or an RF Modulator and TV set. The computer itself can be the PC, the PC-XT or the PCjr. For the PCjr we recommend the use of a monitor rather than a TV set, since most of our software is written for an 80-column display. However, a TV set does provide a workable display.

These three pieces of equipment are all you need to run the majority of *PC Disk Magazine* software. Wherever possible we try to make the use of any other hardware optional. So, for example, many of the programs will generate printed output, but a printer is not required to use them. Occasionally, however, due to the nature of a program or its design, a particular piece of equipment will be necessary. When a program requires a piece of equipment not in the minimum configuration stated above, this component will be listed as a "Special Requirement" on the program's title page in this manual.

In regard to software, all *PC Disk Magazine* programs are designed to run under DOS 1.1, DOS 2.0 and DOS 2.1. Furthermore, all BASIC programs in the magazine are designed to run under Microsoft's Advanced BASIC. Neither DOS

nor Advanced BASIC are provided on the *PC Disk Magazine* diskette; they must be acquired separately. As a rule, these are the only outside software elements you will need to use *PC Disk Magazine*. We will occasionally publish a program which uses some additional, publicly available software product. Any such additional software will be listed as a "Special Requirement" on the program's title page in this manual.

A closing remark on this topic is not so much a requirement as a recommendation. We recommend that you make a copy of your *PC Disk Magazine* diskette to work with, and save the original as a backup. In some cases, you will have to make a copy of the program in order to use it. The reason is that some programs create additional files as they run, and these files must be stored on diskette as well. You may have noticed that your *PC Disk Magazine* diskette is write-protected. Thus it cannot receive these additional files. So a separate, working copy is needed. These situations will be explicitly mentioned in the manual. In general though, where the manual refers to "your *PC Disk Magazine* diskette" you should read "your working copy of the *PC Disk Magazine* diskette."

THE IBM PC KEYBOARD

In *PC Disk Magazine* we have tried to make our instructions as clear as possible by the consistent use of special key symbols. In addition to all the common typewriter keys, which we print as they would appear when typed, the IBM PC keyboard has a number of special keys. We have designed symbols for these keys, which are intended to resemble as much as possible the keys themselves. Since these symbols are used extensively throughout the instructions, we felt the road map and glossary on the following page would help you, our reader, get any needed bearings.

ATTENTION PCjr OWNERS:

The instructions in our manual are written for the PC keyboard. Section 4 of your "Guide to Operations" manual for the IBM PCjr provides complete information on how to translate PC keystrokes to PCjr keystrokes. Please refer to this section for guidance in following our operating instructions.

TEXT CONVENTIONS

Most of the textual conventions of this manual are fairly obvious. The use of special key symbols has been covered. The use of special key names in the narrative text has been discussed. That leaves two brief additional remarks concerning command lines.

The lines set apart from the narrative text are commands that should be typed in exactly as they appear. When two key symbols appear immediately next to each other in such a command line, they should be pressed simultaneously. For example:



means press the Shift key and the Print Screen key simultaneously, thereby printing a copy of the current screen on your printer.

There is one exception to typing in command lines exactly as they appear. When a command includes a phrase such as "somename" or "programname" or "yourfile" you should replace that phrase (but not any punctuation) with a valid filename of your choice when you enter the command.



F6 THE FUNCTION KEYS

There are ten special keys called function keys located at the far left of the keyboard. They are numbered from F1 to F10. This stands for Function One, Function Two etc. These keys are often used to make single keystroke choices or commands.

Esc THE ESCAPE KEY

The Escape key is used most often for exactly what its name implies, to escape (exit) from various functions and processes.

Ctrl THE CONTROL KEY

This key is always used in conjunction with another key by pressing this key and the other key simultaneously. The purposes of the Control key vary widely depending on the application program.

←→ THE TAB KEY

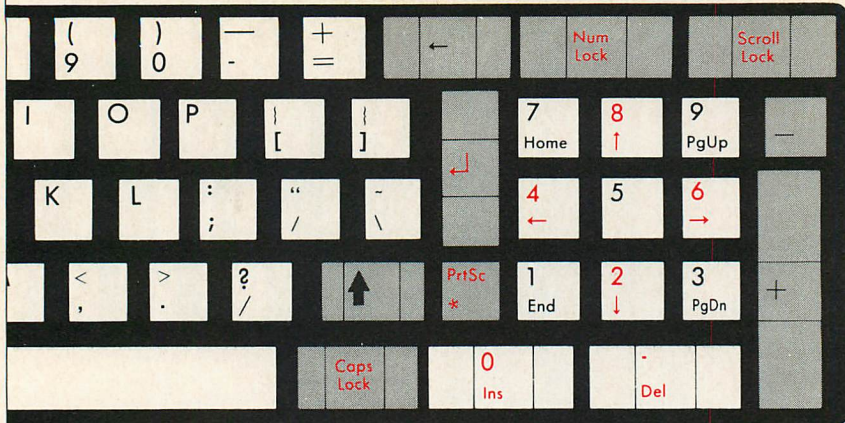
This key is commonly used for horizontal tabbing in text files. It is sometimes used by programs to allow rapid cursor movement during full-screen data entry.

← THE BACKSPACE KEY

The Backspace key is used to correct typing errors. By simply pressing the key, the preceding character is erased and a new character can be entered.

↑ THE SHIFT KEY

The Shift key is actually located on each side of the keyboard. It is used in conjunction with other keys to capitalize letters, get special symbols like ! @ # \$ % * () and other special functions.



THE PRINT SCREEN KEY

This key is used with the Shift key to get a printout of exactly what is on the screen. In computer lingo this is called a screen dump, a dump of all the information on the screen to the printer. In *PC Disk Magazine* we also refer to this capability as "The IBM Print Screen Facility."



THE ENTER KEY

This is the most frequently used key on the keyboard. Almost every time you need to give information to the computer, you have to press this key to ENTER that information. This key can also be thought of as the carriage return, since it works similarly to the RETURN key on a typewriter.



THE NUM LOCK KEY

This key toggles between calculator mode and cursor control mode. To change from one mode to another press the NUM LOCK key once.



THE CURSOR CONTROL KEYS

These are the arrows that point up, down, and to each side. If these keys are not functional, press the NUM LOCK key once. These keys control cursor movement within some *PC Disk Magazine* programs. They will move the cursor in the direction of the arrow.



THE INSERT AND DELETE KEYS

These keys really mean the INSERT and DELETE keys. And that is exactly how they are used. INS is used to insert new information and DEL is used to delete unwanted information. They are commonly used when editing BASIC programs, and can often be used when running BASIC programs as well.



THE CAPS LOCK KEY

This key is used to save you from having to hold the shift key down all the time to get capital letters.



THE CONTROL AND SCROLL LOCK KEYS

This key combination deserves special mention because of its importance in BASIC, the language of most *PC Disk Magazine* software. These keys used together will interrupt the processing of any BASIC program. The keys should be used with caution because some interruptions can require you to start an entire procedure from the beginning.

TERMINOLOGY

In the preceding section we identified the special key symbols used in this manual, and gave a name to each one. For example:



is called the Enter key. In our instructional narrative, it sometimes makes more sense to refer to a special key by its name rather than its symbol. Thus the key names in the preceding section are also special terms for the purposes of this manual. Familiarize yourself with the names to facilitate your use of the manual, and refer to the preceding section as a glossary of key names when necessary.

In addition to the key names, a few other terms and phrases are used in this manual that may be unfamiliar to you.

We commonly speak of putting a diskette in the "default drive." This may seem like a needlessly vague phrase. After all, we know a diskette drive always has a one letter identifier associated with it, so why not refer explicitly to that letter? The problem with using an explicit letter reference is that it can create confusion about what exactly you must do. In other words, operationally it does not matter whether you put the diskette in the A Drive, the B Drive or even the C Drive (if you have a third diskette drive). What matters is that you put the diskette *in the drive that is currently active*, i.e. the drive whose letter prompt currently appears on the screen. This is your "default drive" because any disk command without a drive letter will look at the diskette in this active drive. So when you put a diskette in the "default drive," you can then issue commands referencing that diskette without the use of letter identifiers.

Every start-up procedure for a BASIC program requires you to "Load Advanced BASIC into your PC." To run a *PC Disk Magazine* BASIC program, the BASIC Interpreter must be up and running on your machine—you must be "in BASIC." BASIC is really a program like any other. To start it you must load it from a disk into your PC and start it running. This is precisely what happens when you put your DOS diskette (or any diskette with the file BASICA.COM) in the default drive and type:

BASICA



By so doing you "Load Advanced BASIC into your PC."



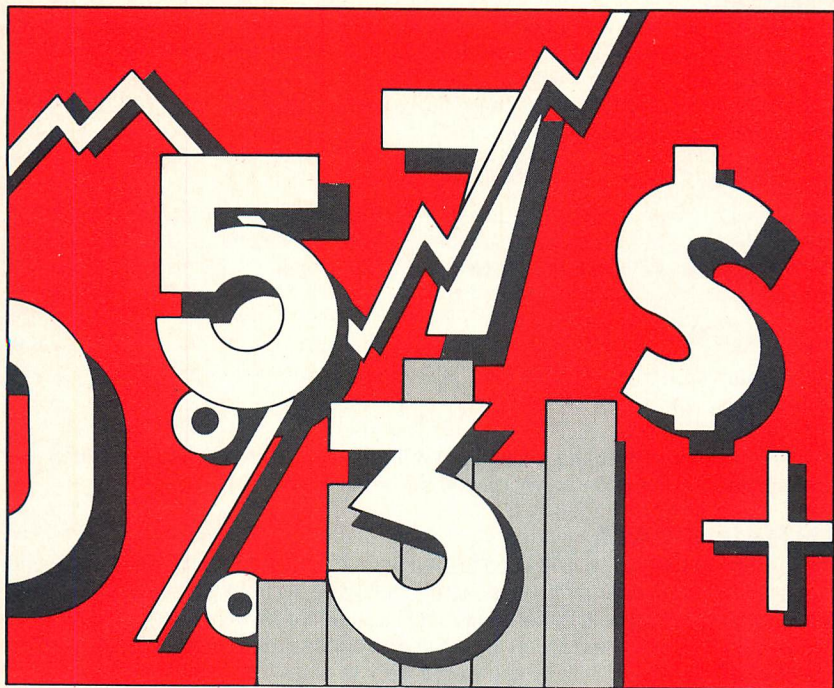
PC Disk Magazine believes in giving you the most for your software dollar. Consequently, wherever possible we publish BASIC programs in the original source code, which allows you to list or copy these programs in their entirety. Furthermore, our editorial diskette itself is not copy-protected in any way, making it possible for you to produce work copies of our software. We at *PC Disk Magazine* choose neither to copy-protect our offerings, nor to make our program code inaccessible—a rather sharp departure from traditional software distribution.

WHY?

The most important reason behind our decision is our desire to make *PC Disk Magazine* of the greatest possible use to you. We want *PC Disk Magazine* to expand the utility of your microcomputer—the reason you bought the machine in the first place. This desire involves several considerations. First, we want you to be able to learn from these programs. We believe that many of our programs can serve as models of good programming practice, and also provide routines of general use. To derive this benefit you must be able to study the source code in order to understand the design concepts and programming techniques employed. Second, we want you to be able to adapt these programs to your own needs. You may choose to modify some programs, or expand them, or include portions of them in programs of your own. Once again, you need the source code to do this. The third consideration is that to have the flexibility to use *PC Disk Magazine* most extensively, to modify and expand programs, to create different versions and to experiment, you must be able to make copies of *PC Disk Magazine* materials. Thus, our objective—to establish the most productive relationship possible between this magazine and its readers—was the most compelling reason to publish copy-able source code.

Another reason worth mentioning is space. The same program requires 10 to 50 percent less storage space on our editorial diskette in source code than it would in compiled BASIC. So publishing programs in source code lets us give you more software in the fixed amount of diskette space available.

Now that you understand the reasons for our decision, we hope you will minimize our risk by honoring the legal copy restrictions that apply to *PC Disk Magazine*. Use the magazine as extensively as you like for yourself, but do not give listings or copies of our software materials to others. Be aware that the contents of *PC Disk Magazine* are copyrighted private property. Your technical freedom to copy these materials implies no legal right to distribute them. We ask that you act responsibly in your use of *PC Disk Magazine* and not abuse the spirit of open exchange. For our part, we will continue to make our material as useful to you as possible, with the expectation that, properly understood, this policy will best serve you our readers.



CURVE FITTER

By Scott Camazine

Special Requirements: Color/Graphics Adapter

Files Used: CURVEFIT.BAS, LINEAR.DAT, EXPONENT.DAT
SECOND.DAT, LOG.DAT, POWER.DAT

Trying to find relationships among data points can be like comparing apples to oranges. Instead of generating fruit salads, use CURVE FITTER to help you with those frustrating mathematical fitting procedures. The program will assemble X-Y data from the keyboard or a data file, plot it on a graph that you tailor to your needs, and fit one of five types of curves to the data. Linear, exponential, second order, logarithmic, and power curves are no problem for this useful utility. You can also save the data in a file or on paper.

BACKGROUND

CURVE FITTER uses the least-squares regression method to fit an equation to a set of points. Using trial and error, the program calculates the amount that a particular equation deviates from the actual data, squares each deviation, and adds all of the squares. In general, those equations with the smallest sum of squares

are closer approximations to the data. The result of a least-squares fit regression is a line or curve that approximates your data and which can be used to make projections of data points lying outside the available range. Since the trick to least-squares fitting is to start with the right type of equation, *CURVE FITTER* tries five different types and shows you the fit of each.

START-UP

In order to save data with *CURVE FITTER*, you must copy the program from your *PC Disk Magazine* diskette to a separate, formatted diskette that has room for the additional files the program creates.

To make the copy, you must be in DOS. Then put your *PC Disk Magazine* diskette in the default drive and type:

COPY CURVEFIT.BAS B: 

where "B:" is your destination drive. On a single drive system, DOS will prompt you to swap in your destination diskette for each COPY command. To run *CURVE FITTER*, put a diskette with the file BASICA.COM in your default drive and load Advanced BASIC by typing:

BASICA 

Insert your work copy of *CURVE FITTER* into your default drive and type:

RUN "CURVEFIT" 

A Title Screen and then the Main Menu will appear. The five options on this menu are arranged in the order in which you should use them.

ENTERING DATA

Option 1 on the Main Menu is used to load or modify data for the plotting and fitting procedure. You may enter these pairs of points directly from the keyboard or from a file created earlier with either the DOS EDLIN editor or with *CURVE FITTER*.

Option 1 from the Main Menu allows you to choose either to read in an existing file or enter new data. Initially you would want to enter data, so press:

1



You will then be prompted for the number of data points (X, Y pairs) you want to enter. After this number is entered, the program proceeds to prompt you for that many data points.

If you choose to load an existing file, the program will prompt you for a filename. You can use any filename acceptable to DOS. If the filename you have entered does not exist, the program will tell you so and ask you to try again. If the file does exist, the data will be loaded and displayed.

Once you finish entering new data, or have loaded existing data, you are given the option to change any of your data points. To do so, enter the data item number associated with that data point, and the cursor will then be positioned for the entry of new X and Y values.

If you want to add data, choose the data item number where you want it inserted. You can then enter your new data point just as in the change procedure. Once entered, all the other data points will be moved down.

If you have more data points than can fit on one screen, press:

 or 

to move back or forward one screen respectively.

When you confirm that there are no further data changes, the program asks whether you want the current set of data saved to disk. If you reply "Y" you are

prompted for a filename. Press:



to use the latest filename you have entered (e.g. to save your new data to the same file from which it was originally loaded). Otherwise you can specify any filename acceptable to DOS. If a file with that name exists, you will be asked to confirm that you want it replaced.

When you have made your save/no save decision, you will be shown the current settings for your plotting intervals and labels. This information is presented as a reminder to you. For the entry of new data, the plotting intervals will default to the high and low values of X and Y respectively, and the labels will be set to certain system defaults. If you wish to alter these settings choose option 2 from the Main Menu. Press any key to exit this display and return to the Main Menu.

RANGE AND TITLES

Option 2 on the Main Menu is used to enter or change the parameters used to plot the data. These include the X and Y axis labels, the graph title, and the range (or interval) over which you want the data plotted. When you select option 2, the current settings for these parameters are displayed.

The program prompts you first to decide whether to change the plotting interval. This interval determines the starting and ending values for the X and Y axes and the portion of your data that will be evaluated and plotted. Data values falling outside these intervals will not be considered, so you can examine subsets of your data if you wish.

If you choose to change the intervals, you will be asked to enter new minimum and maximum values for the X and Y axes. To leave any of the current values unchanged, just press the Enter key in response to the prompt for that item. When new values are set, you have the option to save your new settings to disk, in the same manner as the data entry/update procedure previously described.

After setting your intervals, you are allowed to change the title and/or axis labels. If you choose this option, you will be prompted to make new entries; you can also press the Enter key to leave any current setting intact. When your input is complete, you may again save your latest settings to disk. From this point, or if you choose to make no changes, you return to the Main Menu.

GETTING A GOOD FIT

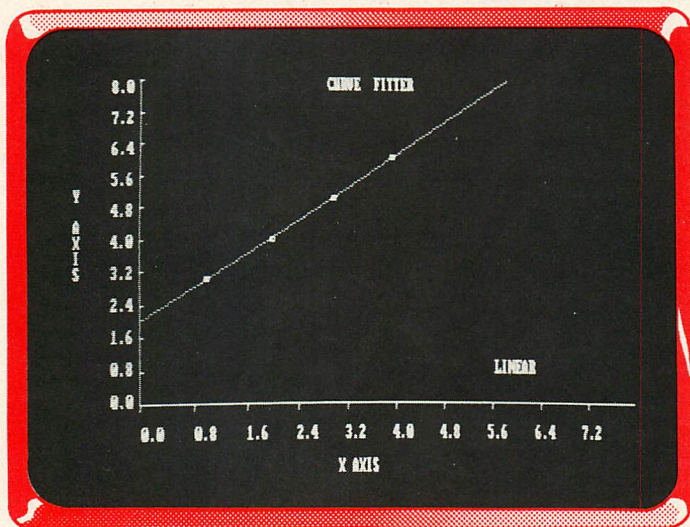
Once your data has been entered and the parameters chosen, the next step is to look at how the five different equations can be fit to the points and to choose the one that comes closest. Choose option 3 on the Main Menu to do this. The program will calculate the five least-squares fit regression equations for the data and then display the results. A linear equation is a straight line. Exponential, second order, logarithmic, and power equations produce curves of varying properties. The caret sign (^) indicates that the following number is an exponent (for example, "X ^ 3" means X raised to the third power).

Look at each of the equations to see which one best approximates your data. Each equation has a correlation coefficient, which serves as an index of how closely the equation fits the data. A correlation coefficient of one means that the equation fits the data with no error at all. Numbers less than one show that the equation is not perfect. Therefore, the equation with the correlation coefficient closest to one is the equation that most accurately fits the data plotted.

The numbers in the fitted equations sometimes get rather exact, with, perhaps, 15 decimal places. This is because the program tries to get as close as possible to the perfect equation. Don't feel obliged to use all 15 digits of a number when using the equation to make projections.

Once you have determined which equation best fits your data, you can see how the line or curve looks when plotted against your points. First press any key to leave the Regression Results Screen and proceed to the Fit Selection Screen. Here you will see all five equations in their generic form, along with an identifying number. Pick the number of the equation for which you would like to see a fitted plot, and the program will draw the graph. Your data points will be displayed with the previously specified title, labels, and intervals, and the fitted equation will be plotted. The plotting takes time, so be sure to wait until you hear a "beep". Once you have finished viewing the graph, press any key to continue.

At this point you are given the opportunity to change any of your data, following the same procedure as in the data entry/update activity (option 1 from the Main Menu). When your data is set, you may then return to the Regression Results Screen for further regression analysis (e.g. looking at another equation's fit), or return directly to the Main Menu.



A fitted linear regression curve

A SIMPLE PLOT

Option 4 on the Main Menu plots the data points without graphing a fitted line or curve against them. Pressing any key from this graph will cause the program to display the data values and ask if you want to change any of them. Press:

Y

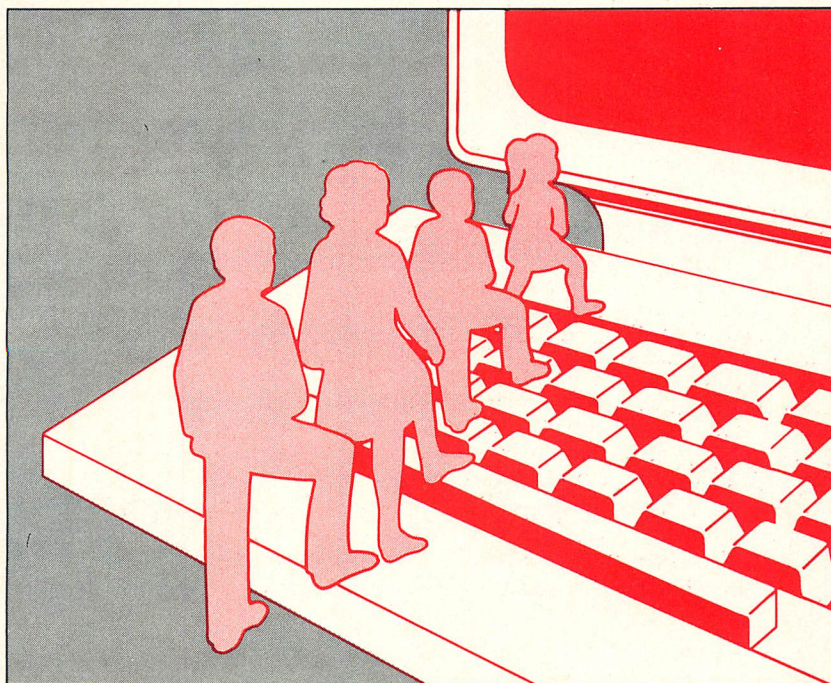
to return to the data entry and editing routines found in option 1 on the Main Menu. Press:

N

and you will be asked if you wish to save the data on disk. After typing your response, you will be asked if you want to review the graph. Press "Y" to display the graph or "N" to return to the Main Menu.

EXITING

Choose option 5 on the Main Menu to reach the Exit Screen. Press function key F2 to run the program again or the Escape key to return to DOS.



LABEL MAKER

By David Johnson

Special Requirements: Printer
Files Used: LABEL.BAS

If your personal or professional mailing list consists of an unmanageable collection of tiny scraps of paper and ragged business cards, or if your Rolodex is over-stuffed and underalphabetized, then read on. LABEL MAKER does a professional job of storing and managing any kind of list. It can be used for business as well as personal applications. LABEL MAKER will format and store thousands of pieces of information, and allow you to easily display and edit that data. As a mailing list management system, it is capable of storing tens of thousands of addresses and sorting them, five thousand at a time. Its print function allows you to format these addresses to whatever size label you are using. LABEL MAKER's editing functions make it easy to add, change, or delete any label.

START-UP

Since the LABEL MAKER program creates additional data files, you must supply a blank, formatted diskette to store the information. If you have two drives, you can


create the data files on a disk in your second drive. If you have one drive, copy the program onto its own diskette and create the new files on that diskette.

To make the copy, type:

COPY LABEL.BAS B: 

at the DOS prompt. The system will tell you when to insert your source diskette and when to insert your target diskette in drive A.

To run *LABEL MAKER*, you must first load Advanced BASIC into your PC and at the same time define the size of your I/O buffer. Do this by typing:

BASICA /S:1024 

Next, put your working copy of *LABEL MAKER* in the default drive and type:

RUN "LABEL" 

RUNNING THE PROGRAM

To start a new list using *LABEL MAKER*, enter a filename and the letter of the disk drive you want the file to be on. The program will attempt to find a file with that name, and if successful will attempt to load it. However, if you have chosen a new filename, the program will ask you to confirm that it is a new file. Press:

Y

and the file will be created.

Now you must set the parameters of your new file. These parameters tell the program how big your labels are, since there is no way for the computer to sense what size label stock you have in the printer. Your labels can be up to 60 characters wide and 15 lines long. Once you have set the dimensions of your labels, they cannot be changed easily. Remember to tailor your label size to the size of your print labels. After you have indicated your file parameters, the following menu will appear:

- A** - Add a label to the file
- D** - Display/Edit/Select labels
- C** - Change active file
- F** - Display label categories
- S** - Sort the labels in the file
- U** - Utilities for print and file format
- P** - Print previously selected labels
- E** - End

If instead of this menu you see "Fatal Error 5", it means that you forgot to include "/S:1024" on the BASICA command.

CREATING AND ADDING LABELS

If you are creating a new file or adding a label to an old file, you must start by typing:

A

The program prompts you to "Choose label category (8 characters maximum)". The category name is important because it may be used to sort your labels.

You are now ready to add data. A message on the screen reminds you how many lines you defined for each label and prompts you to type in your first line.

Press the Enter key after the line. Prompts for subsequent lines will continue to appear until you have completed all the lines of your label. At that point, the full label will be displayed. Press:



to accept that label. The program will then give the choice of pressing:



to return to the Main Menu, or:

A

to continue adding labels.

Every time you enter a label, you can change the category name before pressing the Enter key to finalize the entry. The current category will be the default setting. But if a label is the first label in a new category, type the new category over the current category. This becomes the new current category when you press the Enter key. The program will allow you to continue entering labels until you have filled up your disk or until you return to the Main Menu.

DISPLAYING LABELS

The second option on the Main Menu allows you to Display a Label, Edit a Label, or Select Labels for printing. If you press:

D

on the Main Menu, you will be prompted to enter the name of the category you wish to display. To see all labels across all categories, press the Enter key and the screen will show the categories, the first line of each label, and the corresponding label numbers. A command line at the bottom of the screen tells you to press "<" to see the previous page of labels, ">" to see the next page, Escape to return to the Main Menu, "D" to display a particular label, "E" to edit a label, or "S" to select a label or a group of labels for printing. To view a particular label, press:

D

on the Display Options Screen, then enter the number of the label to be displayed. The full label will appear on the screen with the category name beneath it and a message telling you to "Press any key to return" to the Display Options Screen.

To edit a label, press:

E

on the Display Options Screen. You will be prompted to enter the number of the label to be edited. The full label will be displayed on the screen and you may either change the label or delete it.

Press:

C

to change the label. The screen will display the label again but this time a letter will appear next to each line of the label. Enter the letter of the line you wish to change. When you are finished changing lines, press the Space Bar to return to the Display Options Screen.

If you press:

R

instead of "C" on the Label Display Screen, you will delete that label and return to the Display Options Screen.

If you wish to print your labels, you must first select those to be printed. Press:

S

on the Display Options Screen. The program prompts you to decide how you want your labels to be selected. Pressing:

K

allows you to enter a keyword. The program then selects the labels containing the keyword. For example, entering "Houston" would select for printing all labels in which the word "Houston" is found. If you press:

N

the program prompts you for the label numbers and quantity. The format for specifying these values is:

NNN,qqq or NNN-YYY,qqq

where "NNN" and "YYY" are the beginning and ending label numbers. If "YYY" is omitted, only label "NNN" will be printed. The number of copies of each label to be printed is specified by "qqq". (If no value is given, this number defaults to 1.) For example, the sequence 34-236,5 will print five copies each of all the labels from 34 to 236. After you have set the print parameters, press:

P

The program will then display information on the number of labels to be printed and tell you to turn your printer on. Strike any key to continue. Position your label stock, press any key, and the program will print your labels. If you have accidentally formatted your labels to contain more characters per line than your printer has available, the label at the end of the page will wrap around into the beginning of the next label. You will have to reformat your labels before you can successfully print them. When you are finished, you will be returned to the Display Options Screen.

CHANGING FILES

The next option on the Main Menu allows you to change the active file. Pressing:

C

returns you to the Title Screen where you can specify a new filename. The program then proceeds to the Main Menu.

DISPLAYING CATEGORIES

If you wish to take a quick look at the label categories and the number of records in each category, press:

F

at the Main Menu to display this information.

SORTING LABELS

You can sort all of your labels from the Main Menu by pressing:

S

You may sort either by category or by line number. Pressing:

C

on the Sort Options Screen sorts your labels alphabetically by category, with numbers before letters, and then returns you to the Main Menu. The alternative is to sort by line number. Press:

L

on the Sort Options Screen, and then indicate the letter, between A and O, that you wish to sort by. When the sort routine is completed, the program returns you to the Main Menu.

UTILITIES MENU

At the Main Menu, press:

U

and the following Utilities Menu will appear:

| KEY TO RESPECIFY | PARAMETER | CURRENT VALUE |
|---------------------|--|------------------|
| A | Number of labels across page | n across |
| B | Horizontal spaces between labels | n spaces |
| C | Vertical spaces between labels | n spaces |
| D | Number of vertical lines on a label | n lines |
| E | Number of horizontal lines on a label | n characters |
| S(end) | Save changes and RETURN to Main Menu | |
| X(end) | Cancel changes and RETURN to Main Menu | |

The first three keys ("A", "B", and "C") are used to set the format for your printer. Keep in mind the dimensions of your label stock and the number of characters your printer has per line. If you are using pre-cut label stock, you will need to know both the horizontal and vertical spacing between labels. Use "A" to specify the number of labels across the page, and "B" to indicate how many spaces follow each label printed across the page. Similarly, use "C" to indicate the number of blank lines that follow each label printed down the page.

The "D" and "E" keys will reformat your label file. Both require that a new file be created on your disk, into which your old label file will be written. If you accidentally specify a filename that already exists on the disk, the program will ignore these commands and return to the Main Menu without making any changes. These two commands give you the ability to change the number of lines per label, and the number of characters per line, which you specified at the time your original label file was created.

EXITING

When you are finished using this program, just press:

E

at the Main Menu and you will return to BASIC.



SUBMISSION PROCEDURE

What sets *PC Disk Magazine* apart from most other publications is that we want and need your direct involvement. Our need for quality software offers our readers a special opportunity to also be our authors. That's why we developed the "Software Submission Plan." If you're interested in submitting software you've developed either on your own or with others, let us know, and we'll send you the Submission Plan booklet. This booklet provides details on our submission procedure, as well as our technical requirements for the software we publish. We would like to give you an outline of our Submission Plan here in order to stimulate your imagination and your interest.

The Software Submission Plan provides you with an opportunity to profit directly from your work. Under the plan, *PC Disk Magazine* will pay you either a flat fee or a royalty on every issue sold that contains your software. Best of all, this opportunity comes without elaborate restrictions. Our desire is to license software for publication in the disk magazine format.

To explore the considerable opportunities for publication in *PC Disk Magazine*, write to us and ask for a Software Submission Plan booklet. The address is:

PC Disk Magazine
Author Submissions
One Park Avenue
New York, N.Y. 10016

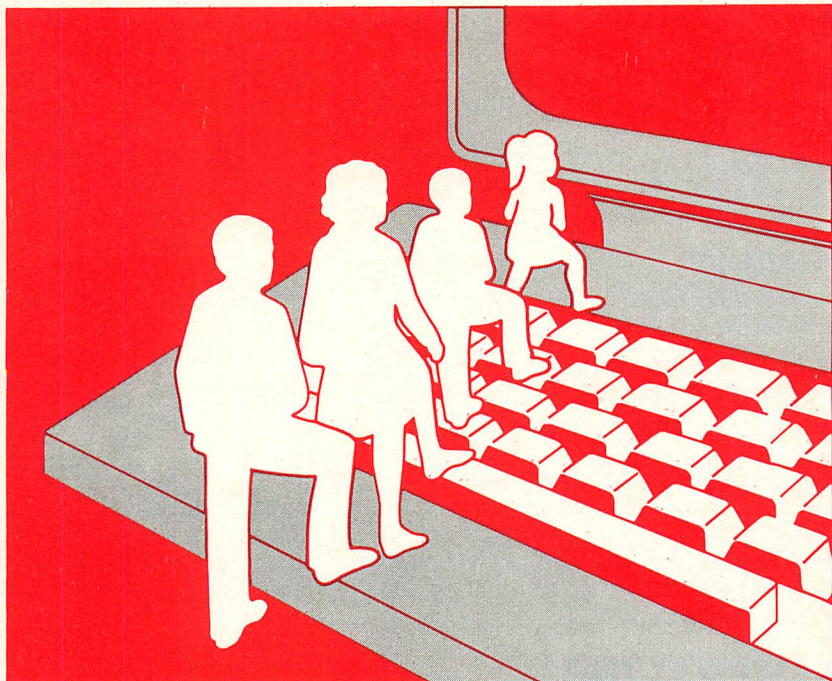
Once you've received the Submission Plan, read it over carefully. If you feel your software fits the requirements set out in the plan, complete the enclosed Software Submission Agreement and return it to us. Do not send us any program code or documentation when you return the Submission Agreement.

Following receipt of the Submission Agreement, the editors of *PC Disk Magazine* will evaluate the submission. At that point, we'll either indicate a lack of interest in the software or, if we are interested, we'll issue a submission authorization number and ask you to provide us with an executable copy of the program along with documentation on 5 $\frac{1}{4}$ " diskettes. Again, do not send us any additional materials until you receive a submission authorization number.

If we subsequently decide that we would like to publish the software in *PC Disk Magazine*, we will offer a Software Contract, which will include such items as royalties, advances, and program and documentation changes required (if any). You will be asked to complete and test any program modifications agreed to in the Software Contract, and *PC Disk Magazine* will conduct a formal validation of the program and documentation.

We estimate that this process, from our initial evaluation to publication, takes approximately three to six months. This estimate is dependent upon a number of factors, and the process may take more or less time for your submission.

Our issues to date have already contained a number of programs received through our Software Submission Plan. The opportunity is real, so don't be shy. We look forward to hearing from you.



WINE DATA 3

By Morris Effron

Researched by Laura Ninger

Special Requirements: None

Files Used: WINE3.DAT
WINE3.BAS

Do you know a Chardonnay from a Chenin Blanc? After you've spent ten minutes studying a restaurant wine list, do you still lack the courage to order anything but a glass of water? And when your host talks about "a wonderful bouquet", do you think he is describing the centerpiece? Well, your days of wine and neurosis are over. PC Disk Magazine brings you the third and final installment of WINE DATA, a series of data files containing information about the wines of various countries. This issue treats the wines of California and promises you enough oenological knowledge and confidence to impress your friends and terrify wine stewards.

BACKGROUND

Hundreds of unpredictable factors determine the quality of a wine—the weather, the composition of the soil, the time of the grape harvest, the bottling techniques

and materials, and the wine's age. These variables make today's selection of wines richly varied in quality and cost, and often hopelessly confusing to the uninitiated.

Fortunately, there is some agreement among wine connoisseurs regarding the expected quality and the required aging time of specific wines. Wines are judged according to the year they were bottled, the grape variety used, and the area where they were produced. Armed with an organized collection of this information, you can determine with some degree of certainty whether any particular bottle contains a good wine or not. In *WINE DATA 3*, the consensus on California wines has been consolidated into a rating system and stored in a data file. Nine different types of wine, classified by grape variety, are rated in the file. The accompanying program allows you to access this information either by grape type or year. You can also call up further information for each of the nine categories. Finally, the Print Screen capability of the IBM PC enables you to make a hard copy of any of the rating displays.

START-UP

Load Advanced BASIC into your PC by putting a system disk in your default drive and typing:

BASICA 

Then put your work copy of the *PC Disk Magazine* diskette into your default drive and type:

RUN "WINE3 

to display the Main Menu of *WINE DATA 3*. This menu has three options. The first option rates the wines of a particular vintage (year) according to the grape variety used to make the wine. The second option rates the wines of a particular grape variety according to year. Option 3 lets you exit the *WINE DATA 3* program and return to Advanced BASIC.

RATINGS BY YEAR

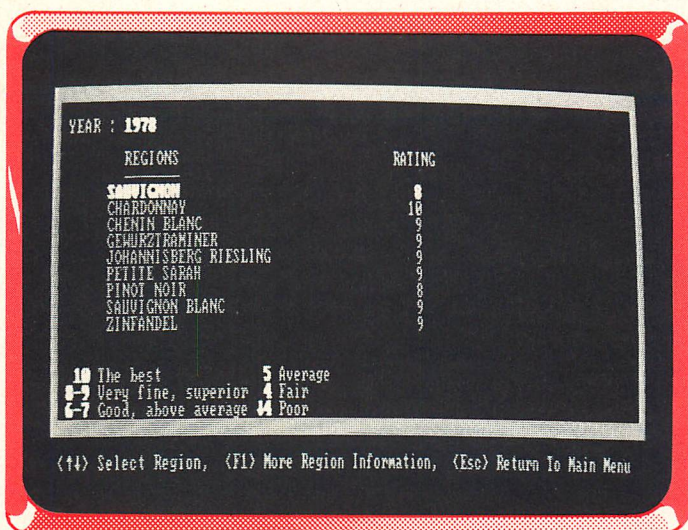
The data file includes ratings and further information on each of nine different wine groups. Categorized by the grape variety used to make the wine, these groups are Cabernet Sauvignon, Petite Sirah, Pinot Noir, and Zinfandel (the reds); Chardonnay, Sauvignon Blanc, Chenin Blanc, Johannisberg Riesling, and Gewurztraminer (the whites). The vintage charts rate the wines produced from these grapes in the northern counties of the California winegrowing region.

If you choose option 1 on the Main Menu, a prompt on the bottom of the screen will ask you which year you wish to see rated. While not every wine could be rated for each year, all nine varieties are represented for most of the years between 1968 and 1982. Type in a year and press:



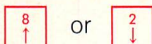
A screen will now list the various California grape varieties. Next to the column of grape varieties will be a column of ratings for the wine for that particular label and year. The ratings range from 1 to 10. Ten is the best rating a wine can receive, and 1 is the worst. Wines rated 5 can be considered average, wines rated below 4 are poor, and those above 7 are quite good.

There is one additional database in *WINE DATA 3*. This contains additional information on each grape variety and the wineries which produce them. This data can be accessed from either the Ratings by Grape or Ratings by Year display. From the Ratings by Year display, you must first select the grape for which you



California wines rated by year

would like this additional information. Notice that the first grape variety on the list is highlighted; you can select a different variety by pressing:



to move the selection highlight up or down respectively. Then press:



to view the background information on that grape category. Then, press:



to return to the Ratings by Year screen. To exit from the Ratings by Year screen and return to the Main Menu, just press:



RATINGS BY GRAPE

To see the wines of a particular grape variety rated by year, choose option 2 on the Main Menu. A prompt will appear at the bottom of the screen along with a numbered list of the grape varieties covered in this data file. Answer the prompt by entering the number of the grape category you wish to examine (there is no need to press the Enter key). The screen will then display the wine ratings for that grape category for all years covered by the data file. The rating codes used here are the same as those in the Ratings by Year display.

From this screen it is also easy to access further information on the particular grape type displayed. Press:



and a new screen will appear with background information on the wines made from that grape. Pressing:



returns you to the Ratings by Grape display. Press this key again to return to the Main Menu. You may then exit the program by choosing option 3.



PROBLEM RECOVERY

There really is not a great deal to say about problem recovery with *PC Disk Magazine*. If you use this software on the right equipment running the appropriate system software, as outlined in the Technical Preface, you should experience no problems. Nevertheless, a few comments may resolve some more obvious difficulties.

Any BASIC program can be interrupted at any time by pressing:

Ctrl

Scroll
Lock

If you do not see the Ok message immediately, indicating that you are back in BASIC, press these keys again. This is a rather drastic but effective way of regaining control of the computer. You won't damage any of the programs in this way, since they're still intact on the diskette. However, you will lose any data you entered while the program was running.

If you interrupt a program, you may find that the function keys no longer perform as they had before starting the program. This is because many *PC Disk Magazine* programs reset the function keys during execution, then restore the original settings upon completion. An interrupt causes an abnormal termination of a program, so the function keys are not restored. To correct this situation, simply exit from BASIC and then return to BASIC.

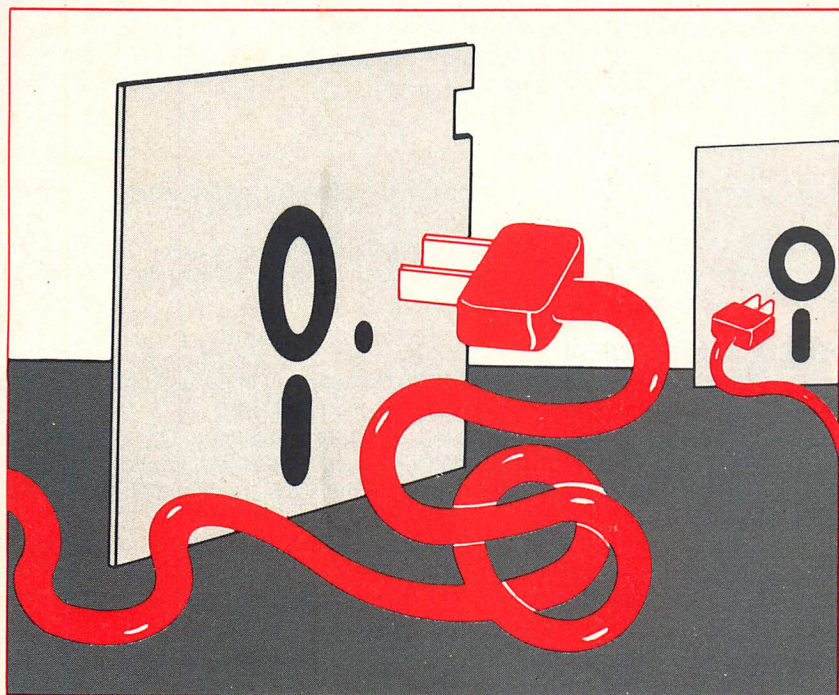
You may find at times that the cursor control keys are not working as they should. This is because the keys are not in cursor control mode. The key that switches these keys between numeric mode and cursor control mode is the Num Lock key. So to restore the keys to cursor control mode, press:

Num
Lock

If you try to send something to the printer when there is no printer, or when the printer is off or offline, you will hang the system. The computer will just sit there and will not respond to any keys pressed. After a few seconds you may get a BASIC error message indicating that the device was unavailable. The program that was running has been aborted, and you will be left in BASIC. If the computer does not put out any message, but just remains hung, you will have to say good-bye to whatever you were doing and re-boot your system.

Though we hope you will never need it, if you should find a "bug" in a *PC Disk Magazine* program, the address to write to is:

PC Disk Magazine
Problem Recovery
One Park Avenue
New York, N.Y. 10016
or call:
609-795-0128



FILE MANAGER III

By C-Level Software

Special Requirements: FILE MANAGER I

Files Used: FM.COM (from FILE MANAGER I, Volume 1, Number 5)

FM.EXE (from FILE MANAGER I, Volume 1, Number 5)

FM.HLP (from FILE MANAGER I, Volume 1, Number 5)

FM.LOD (from FILE MANAGER I, Volume 1, Number 5)

FMVIEW.LOD

FMVIEW.HLP

The previous two issues of PC Disk Magazine presented the first two parts of FILE MANAGER, a useful utility for anyone whose disk collection numbers more than ten. The programs made it simple to rename, copy, or delete a file in the directory.

But even if you have done all this, it is possible that you don't remember what the filename stands for, or which version of the program listing was saved with that name. Wouldn't it be nice to be able to list your file on the screen, so you could see what is saved there without printing it? FILE MANAGER III, the final installment in the FILE MANAGER series, enables you to do this. You can simultaneously use

all the features of *FILE MANAGER I*, display the file, scan through it, save portions of it to another file, and use *FILE MANAGER II* to print it.

START-UP

FILE MANAGER III must be used in conjunction with *FILE MANAGER I*, from Volume 1, Number 5 of *PC Disk Magazine*. The best way to do this is to copy all the *FILE MANAGER* files from this and the previous two issues onto a separate disk. This will allow you to call up *FILE MANAGER I*, *II*, or *III* without having to change disks. Follow the instructions in Volume 1, Numbers 5 and 6 of the *PC Disk Magazine* to use the first two installments.

Typing:

FM V 

will invoke *FILE MANAGER III* plus the useful features of the first installment of the series.

FILE MANAGER III will start by displaying the Title Screen. At the bottom of the screen, you will be prompted to "Press ESC to continue". Doing so will take you to the Main Screen.

THE MAIN SCREEN

This is the standard *FILE MANAGER* Main Screen, with three sections: the Command Line, the Display Window, and the Function Key Line.

The Command Line shows the list of available commands: reName, Delete, Copy, View, Find, Read Dir, Help, and Quit. Select these by typing the capital letter displayed for each. With the exception of the View command, these are the *FILE MANAGER I* commands.

The Display Window shows the list of files on a disk. Below the Command Line, the screen also shows the letter of the current drive, the number of bytes used on the disk, and the number of files. The next line displays the headings for the list of files: NAME, EXTension, SIZE, and the date and time of the LAST UPDATE. The screen will alphabetically display up to 22 files at one time.

The Function Key Line shows which function keys are active, and what they will do.

THE VIEW COMMAND

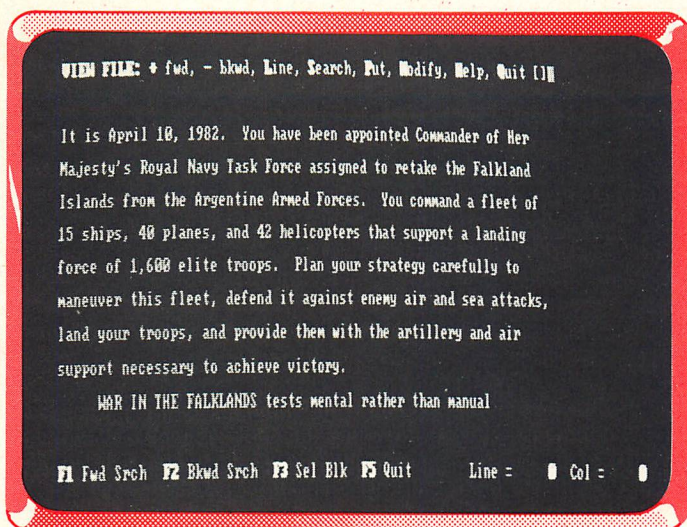
The commands reName, Delete, Find, Read Dir, Help, and Quit all work the same as in *FILE MANAGER I*. (See the manual for *PC Disk Magazine*, Volume I, Number 5). The one new command in *FILE MANAGER III* is the View command. This allows you to display a selected text file on the screen. Start by selecting a file from the directory listing using *FILE MANAGER I* procedures. Then type:

V

The screen will change to the View-File Display. Like the Main Screen, this display is divided into three sections: the Command Line, the Display Window, and the Function Key Line.

The Display Window shows the contents of the selected file. Since a text file line may be longer than the 80-character lines on the IBM PC screen, *FILE MANAGER III* lets you scroll the display both horizontally and vertically. This means that the cursor control keys work in a slightly different way than on the Main Screen.

As on the Main Screen, the Up Arrow and Down Arrow keys move the cursor one line at a time. The Home key returns you to the first line of the file, and the End



The View-File Display

key displays the last line of the file. The main difference is that the Right and Left Arrow keys control horizontal scrolling. When you first start to use *FILE MANAGER III*, these keys will move the cursor 40 characters to the right or left. This allows you to see the parts of the file that do not fit on the 80-column display. In a similar way, the PgUp and PgDn keys control the vertical scroll. When you start, *FILE MANAGER III* sets these keys to scroll a full screen each time. Both the horizontal and vertical scroll rates may be changed (see the Modify command, below).

There are three cursor control commands listed on the View-File command line: +, -, and Line. When you press the "+" key, *FILE MANAGER III* will ask for the "Forward Displacement". Enter the number of lines that you want the cursor to move forward and press the Enter key to display the desired line at the top of the screen. If you move the cursor past the last line on the display, the file will scroll until the cursor has moved forward the specified number of lines. The "-" command works in the same way, except that it moves the cursor up, toward the start of the file. The Line command allows you to specify a particular line in the file. For example, to place the cursor on the tenth line in a file, type:

L

FILE MANAGER III will ask for the "Absolute Line Number". Type:

10 

and the tenth line in the file will appear at the top of the Display Window.

The Modify command allows you to change the size of the jumps taken with the horizontal scroll (Left Arrow and Right Arrow) or vertical scroll (PgUp and PgDn). These distances may be set to any positive integer value.

There are two more features of the View-File Display. You may search through a file for a specific word or set of characters and you may select a block of text and write it to another file.

Start a search by typing:

S

and then answering the prompt "Enter Searchkey:". *FILE MANAGER III* will then scan the file for the next occurrence of those characters and move that line to the top of the display screen. Note that the Search command differentiates between uppercase and lowercase letters. For example, if you search for "word", then only "word" will be found, and not "Word" or "WORD". If you want to search again for the same characters, you may use the function keys. The F1 key will search forward for the next occurrence, and F2 will search backwards (toward the beginning of the file). (Note that *FILE MANAGER III* will only find a searchkey once per line. If a searchkey occurs twice in a line, only the first will be identified, and a subsequent search will skip the next occurrence and search starting with the next line.)

The Block commands allow you to mark a block of text and then write it to another file. Start by moving the cursor to the first line of the block you wish to mark and pressing the F3 key. Then move the cursor to the last line that you wish to include in the block and press the F3 key again. (Note that only the arrow keys will move the cursor while you select a block.) The entire block will be highlighted on the screen. At this point, you may save this section of the file, or you may "deselect" the block and start over. You can deselect a block simply by pressing the F3 key again. Doing so unmarks the previous block and uses the current line as the first line in a new block. (Always select the first line first—if you try to select a block from bottom to top, it may appear to be highlighted correctly, but may not be saved properly when you try to write it to the disk.)

After marking the block, use the Put command to write it to disk. Type:

P

and the program will prompt with "Put Block to File:" Respond with the filename you wish to save the block under and press the Enter key. You may specify a different disk drive letter by typing this letter and a colon before the filename; e.g., B: BLOCKS would save the block under the name BLOCKS on Drive B.)

If the file does not already exist, the block will be saved under that filename. If the file does exist, *FILE MANAGER III* will prompt: "Destination File Exists: Append, Replace, Help, Quit". Append allows you to add the block to the end of an existing file, and can be useful when excerpting segments of a long file to create a smaller file. The replace option allows you to get rid of the existing version of the file and replace it with the selected block.

The other two commands on the View-File Display are the Help and Quit commands. Help will display an explanation of the commands and cursor control keys active in the View-File mode. Quit will return you to the Main Screen where you may invoke other commands, such as the Quit command to exit the program and return to DOS.

SUBSCRIBE NOW

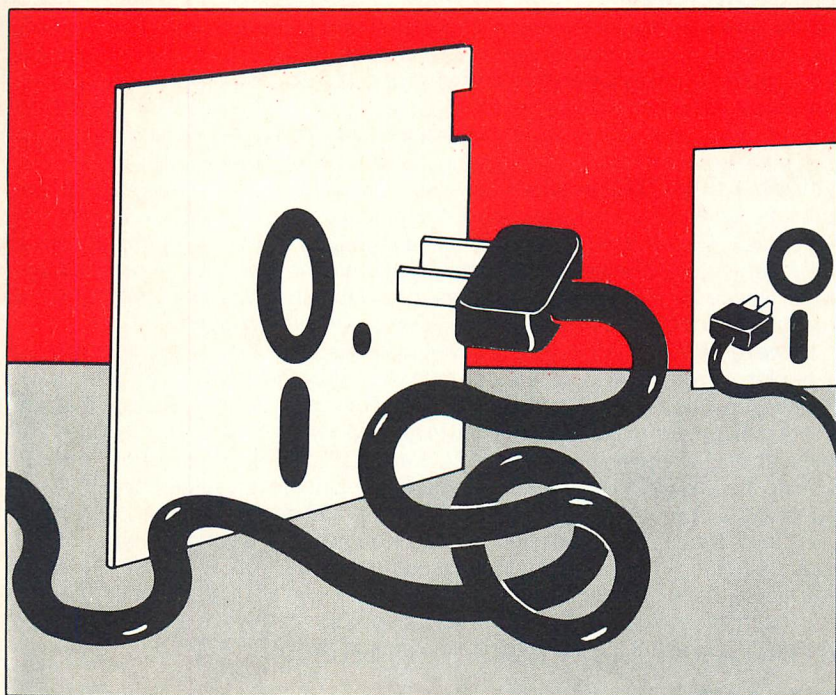
and save \$60 on a 6-issue subscription to *PC Disk Magazine*. Give yourself or a friend up to 50 ready-to-use programs for the IBM PC—a library of quality software—all for only \$149.

Write to:

PC Disk Magazine
P.O. Box 5930
Cherry Hill, NJ 08034

or call:

609-795-0128



PRINT FORMATTER

By Bert Tyler

Special Requirements: Printer

Files Used: PRINTFMT.EXE

You are about to send out 500 letters to potential clients, and rather than hire a printer, you've decided to generate them with your own computer. As the first copy rolls out of the printer, however, you realize that you're bored—not with the contents of the letter, but with its visual impact. It has none.

How can you jazz that letter up? The printer's brochure says it can type compressed, double-width, emphasized, and double-strike characters. These variations would help, but it will take you all week to design that kind of format. That is, unless you have PRINT FORMATTER.

PRINT FORMATTER is a utility that extends DOS by allowing any DOS-based program to use special print control characters within standard text commands. These characters, when included in a program or text, affect only the printer, and not the program itself. This makes PRINT FORMATTER ideal for use with WordStar, VisiCalc, Supercalc, or any programming language. Best of all, there is

not really any formatting required. Just insert the control characters at the beginning of a print line in order to reformat the whole line. If instead you just want one word emphasized, simply place the appropriate control character before the word and the character for "normal" after it. Then you can send out those 500 letters and ensure that they will be read.

BACKGROUND

Almost every printer has a variety of print-formatting options (e.g. double-width, emphasized, etc.) in addition to its normal mode of printing. Some of these options, such as horizontal and vertical pitch, can be set with physical switches on the printer. Most can also be set through software, by sending the printer certain control characters. These control characters are not actually printed, but rather cause the printer to change print modes for the characters that follow.

PRINT FORMATTER provides an easy way to use these additional print features, by letting you put these control characters right in the text that you send to the printer. For the IBM/Epson and Okidata printers, *PRINT FORMATTER* has a collection of single-letter control codes to activate the most common printer features. Hence for these printers and associated features, you don't need to know the actual control codes—just use the appropriate letter codes.

However, *PRINT FORMATTER* is even more versatile. If you have another kind of printer, or want to access features not covered by *PRINT FORMATTER*'s letter codes, you can use the actual control codes themselves. This requires that you check your printer's reference manual to ascertain these codes. You can then use these control characters with *PRINT FORMATTER* in either of two forms. You can look up the equivalent ASCII value for each character in any reference table (e.g. Appendix G of your IBM BASIC Manual) and use that decimal number. Or you can use the character itself enclosed in double quotes. For example, if your printer uses "Escape A" to go into compressed-print mode, you could use the ASCII equivalent of the Escape key, 27, and the ASCII equivalent of the letter "A", 65, and insert the command "[27, 65]" where appropriate in your text. Alternatively, you could represent the same control command as "[27, \"A\"]".

START-UP

Boot up DOS, then insert your work copy of the *PC Disk Magazine* diskette in the default drive and type:

PRINTFMT 

At this point you are informed that brackets are used as the default choice for format identifiers. You are also told how you can change these delimiters if you want to.

RUNNING THE PROGRAM

You can use *PRINT FORMATTER* either with pre-existing files or with a new file. If you have already created a file containing format control characters, just print it as if *PRINT FORMATTER* were not there. When creating a new file, simply type the format control characters in their delimiters wherever appropriate. Remember, you cannot create files with *PRINT FORMATTER*; you must use another program.

PRINT FORMATTER will intercept and examine every character sent to the printer. Normal characters proceed without intervention. Characters sent within square brackets, or within the delimiters you specified, are treated as special format commands and are replaced in the printer by the appropriate format control characters. For example, if you insert the characters "[PC]" before a line, the

printer will perform a page-eject and then switch to compressed-type mode. The format characters themselves are not sent to the printer, but appear as blanks. If you have any experience setting up printer formats, you know that you would normally use printer control codes or ASCII characters. To produce compressed, emphasized type with ASCII codes, you would need to set up the printer with this line: "LPRINT CHR\$(15); CHR\$(27); CHR\$(69)". With *PRINT FORMATTER*, that same command is simply "[CE]". (This format command could also be represented as "[15, 27, 69]" or "[15, 27, "E"]" using *PRINT FORMATTER*'s generic control code facility.) One of the advantages of *PRINT FORMATTER* is that these bracketed commands can be inserted into the middle of a spreadsheet or screen dump.

If there are characters in your text file which are the same as the delimiters *PRINT FORMATTER* is using, the program will be disabled when the first extraneous delimiter is encountered. To prevent this, choose a character for your delimiters which does not appear in your text file, at the time you start *PRINT FORMATTER*.

CONTROL COMMANDS

The following is a list of *PRINT FORMATTER* control commands.

- P** - Begin a new page (page-eject)
- L** - Begin a new line
- B** - Ring attention bell
- S** - Set up horizontal tabs
- T** - Horizontal tab
- V** - Vertical tab
- C** - Begin compressed print
- E** - Begin emphasized print
- D** - Begin double-strike print
- W** - Begin double-width print
- X** - Insert blanks for format characters (Default)
- Y** - Turn off blank fill option
- N** - Return print to normal
- Q** - Quit interpreting format commands
- R** - Resume interpreting format commands
- I** - Set up Formatter for IBM/Epson printer (Default)
- O** - Set up Formatter for Okidata Printer

Inserting the control command "[P]" will cause the printer to continue printing your text on a new page just as an "[L]" will cause the printer to begin a new line. The format character "[B]" signals the printer to ring the attention bell.

PRINT FORMATTER allows you to insert horizontal and vertical tabs into your document. If you are using an IBM printer, you must first prepare the printer to accept your character for tabs. To do so, type the format character "[S]". This will set tabs at every eighth column (columns 8, 16, 24, etc.). It is best to do this at the beginning of your file. Once you have set up your horizontal tabs with this command, the printer will accept the "[T]" format character. An example of the use of the tab function is as follows. If you wish your text to begin three tabs over, you must first have set up the horizontal tabs by typing "[S]" somewhere previously in the document. Then type:

[TTT]

before the text that you want indented. This causes your text to be printed at the end of three tabs.

The commands "[C]", "[E]", "[D]", and "[W]" will cause your printer to create compressed, emphasized, double-strike, and double-width print, respectively. These format characters can be used in combination to create new variations of print.

As previously mentioned, format characters inserted in your document do not appear as such on the printed page but are denoted as blank spaces. This is because the program defaults to the "[X]" command. To eliminate these blanks, you must put "[Y]" at the beginning of your text.

The next few commands are self-explanatory. "[N]" will return the print to normal, "[Q]" will make the printer stop interpreting format commands, and "[R]" will make the printer resume interpreting format commands.

The remaining two control commands prepare *PRINT FORMATTER* for your particular printer. The program default allows it to use an IBM/Epson printer. If you are using an Okidata printer, indicate this by typing "[O]" at the beginning of your file. If you are using neither printer, you will have to use *PRINT FORMATTER*'s generic code capabilities described in the Background section of this article.

Note that *PRINT FORMATTER* cannot send your program an error message, because your program does not recognize the formatter's existence. If you have made an error, the printer will print the entire bracket statement as if it were part of the text and not a command statement.

PRINTERS

PRINT FORMATTER was designed for the IBM, Epson, and Okidata printers. Most other IBM compatible printers have similar features. The control characters least likely to work, though, are "[S]", "[C]", "[E]", "[D]", and "[W]". If these characters do not work, you can substitute their ASCII values.

The IBM and Epson printers have some characteristics you should be aware of. The double-width "[W]" option only stays in effect until the end of a print line, so you must use the "[W]" in front of each line you want double-width. The "[W]" is also the only control that takes effect at the point at which it was called. All other controls take effect at the line at which they were called. In addition, the "[C]", "[E]", and "[D]" commands will continue until they are turned off with the normal control "[N]".

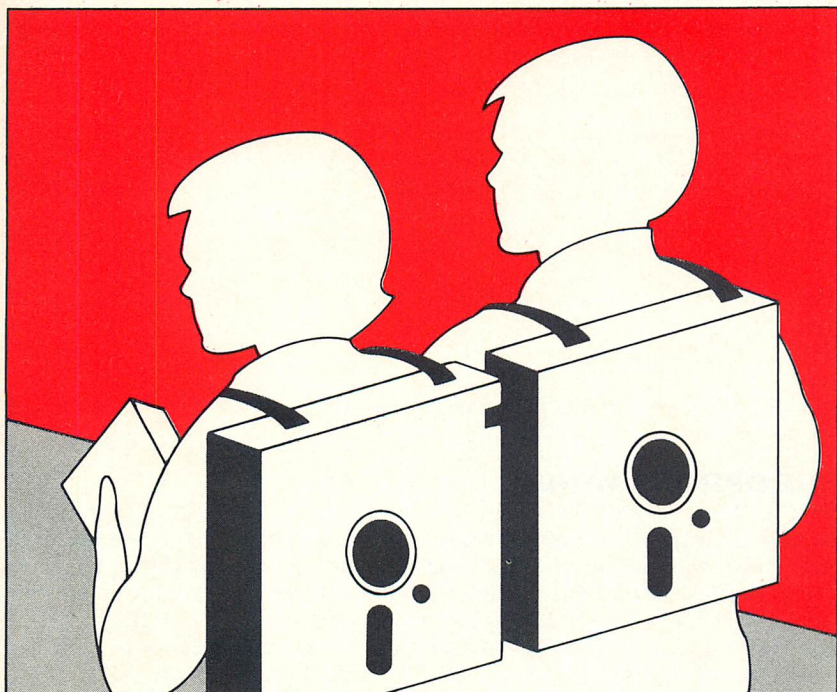
EXITING

The Quit statement, "[Q]", turns *PRINT FORMATTER* off. It does not remove the program from DOS; to do that you must reboot DOS.

CALLING ALL PROGRAMMERS!!

If you have written software for the IBM PC that you feel would be of use or interest to others, *PC Disk Magazine* would like to know about it. Publishing is no longer just for poets and prosaists, but now it's for programmers too. Ask for our Software Submission Plan by writing to:

PC Disk Magazine
Author Submissions
One Park Avenue
New York, N.Y. 10016



FUNNELS AND BUCKETS

By Data Sage

Special Requirements: None

Files Used: FUNNELS.BAS
FUNNELS.SCR

Whether we realize it or not, we rely on our mastery of basic arithmetic every day. Since these skills must last a lifetime, we begin preparing our children at an early age to learn the basic mathematical concepts needed for everyday existence. Unfortunately, many children grow up bored or, worse, intimidated by the fundamentals of arithmetic. One way to defend your child against "math phobia" is to make learning and practicing arithmetic enjoyable. Just run FUNNELS AND BUCKETS on your PC and see how much fun studying can be.

BACKGROUND

FUNNELS AND BUCKETS is an entertaining game which incorporates the benefit of learning. The object of the game is to solve arithmetic equations which fall from a funnel moving across the top of the screen. The funnel is controlled by a sneaky

burglar who would like nothing better than to fill his buckets with equations. To foil him and divert the equations, you must supply the correct answer.

START-UP

To run *FUNNELS AND BUCKETS*, you must transfer the necessary files from your *PC Disk Magazine* diskette onto a separate formatted diskette that has room for additional files the program creates.

To make the copy, you must be in DOS. Then put your *PC Disk Magazine* diskette in the default drive and type:

COPY FUNNELS.BAS B: 

where "B:" is your destination drive. On a single drive system, DOS will prompt you to swap in your destination work diskette for the copy command. Before problems can begin trickling down through the funnel, you must load Advanced BASIC into your PC by typing:

BASICA 

Next put your work copy of *FUNNELS AND BUCKETS* into the default drive and type:

RUN "FUNNELS 

to make the Title Screen appear. Press the Space Bar to advance to the Options Menu.

THE OPTIONS MENU

You can make *FUNNELS AND BUCKETS* as easy or as difficult as you like. Before beginning the game, indicate the type of arithmetic problems you would like to answer, the response time, and your choice of either sound effects or silence. *FUNNELS AND BUCKETS* has already been set with some default game options. These will appear in parentheses beside the selections on the Options Menu. If you'd like to play using the default choices, just press the Space Bar and the game will begin. To change the options, first press the number to the left of the particular category you'd like to change. To choose the type of problem press:

1

To change the option for sound effects press:

2

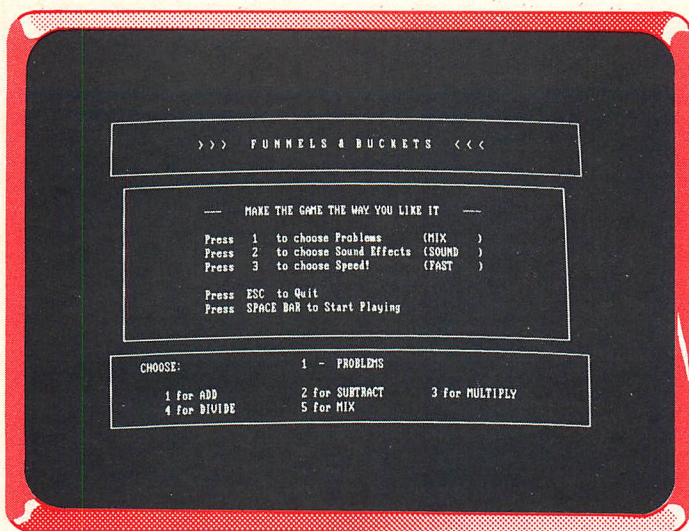
Or press:

3

to alter the speed at which the equations will fall.

After entering the category number, you will see at the bottom of the screen a listing of the available options for that selection. The menu for problem type has five choices: 1) addition, 2) subtraction, 3) multiplication, 4) division, and 5) a mixture of problems. Since addition problems are the easiest, they are worth five points. Subtraction problems are worth ten, multiplication, 15, and division problems, since they are the hardest, are worth 20 points. The list for sound effects has only two choices. Choosing:

1



First set up the rules

will give you sound, while pressing:

2

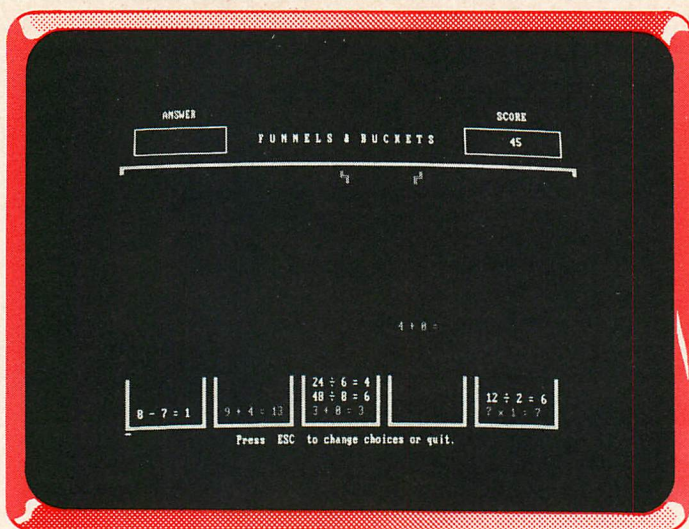
will allow you to concentrate and play in silence.

Finally, set the rate at which the equations will drop from funnel to bucket. This option controls how much time you have to solve each equation. There are six speeds, with 1 the fastest and 6 the slowest. To set the speed at which you'd like to begin, just press a number from 1 to 6. The program automatically speeds up the game as you improve and as your score increases.

PLAYING THE GAME

Now that you have set up the game, press the Space Bar to begin. The game will display a funnel and two boxes across the top of the screen, and five buckets along the bottom. The first box displays your answer if you entered it correctly, or the right answer if you were in error. The second box shows your score. *FUNNELS AND BUCKETS* requires quick thinking as well as mathematical skills. As equations fall through the funnel and move toward the buckets, you must "pop" them by typing in the solution. If you are correct, you earn points, but if you make a mistake, points are awarded to the Burglar. (His score won't appear on the screen.) The program will only accept input from the numerical keys and the Escape key, so you don't have to worry about accidentally pressing other keys or pressing the Enter key. *FUNNELS AND BUCKETS* is not just a race against time, but also against the Burglar. Try to answer before the equation drops into the Burglar's buckets, because once these buckets are full, the game is over. Periodically, the Burglar himself will appear on the screen. If you solve an equation when he is present, he will steal the points that you just earned. If he is on the screen and you answer incorrectly, he will steal *double* the number of points that the question was worth.

Fortunately, you're not alone in the fight against crime, because another little character will appear from time to time. Her name is Meggie and she'd like to help



The FUNNELS AND BUCKETS challenge

you. If you answer an equation while Meggie is on the screen, you'll get double the point score for that particular problem.

EXITING

The game ends when all of the Burglar's buckets are full of problems you could not answer. Alternatively, you can stop at any time by pressing the Escape key. This brings you back to the Options Menu where you can either change the conditions of the game (problem type, speed, and sound effects) and then resume playing, or you can press the Escape key once more to quit. When the game is over, the program compares your score to the previous high score. If you have broken the old record, you will be prompted to enter your name. In either case, you will then see the question, "Care to play again (Y/N)?" Play again by pressing:

Y

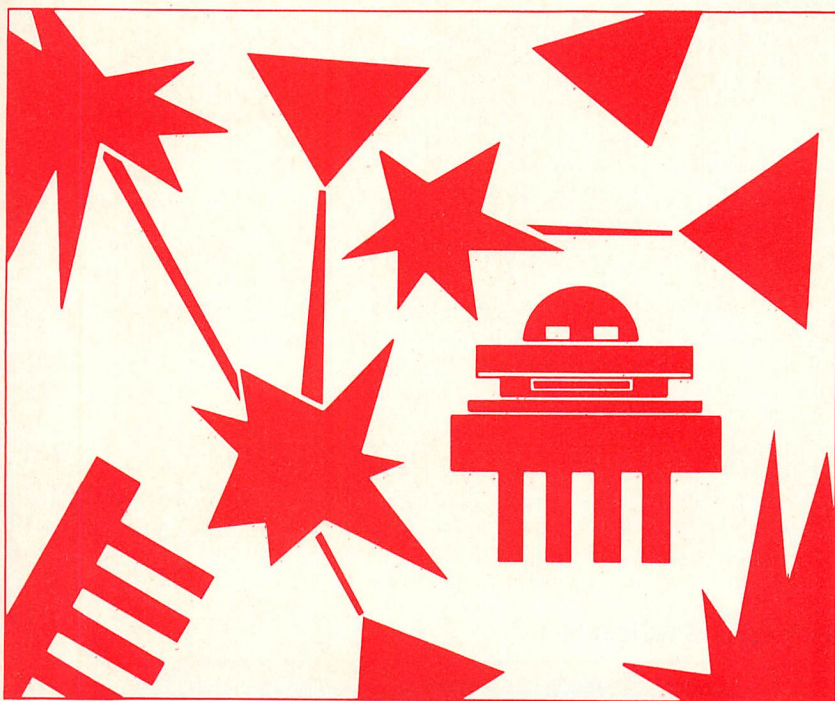
or exit to DOS by answering:

N

PROBLEM HANDLING

We try our best to thoroughly test all *PC Disk Magazine* software, and provide instructions that cover all aspects of its use. Nevertheless, error-free software and exhaustive documentation are elusive goals. So if you have a problem, please contact us and let us help. Although we hope you will not need it, the address to write to is:

PC Disk Magazine
 Problem Recovery
 One Park Avenue
 New York, NY 10016



JIG JAGS 3

By Ron Dubren

Special Requirements: None

Files Used: JIG JAGS.BAS

PUZZLE.SMP

PUZZLE7

PUZZLE8

PUZZLE9

What do you get when you cross a jigsaw puzzle with a crossword puzzle? You get a JIG JAGS, of course—a game which combines the spatial and verbal dexterity necessary to solve either of these types of puzzles. This clever word game is the third and final installment of a PC Disk Magazine regular feature created by Ron Dubren.

THE BASICS

JIG JAGS is played with a 7-by-7-square crossword grid that has been divided into 16 pieces. The object of the game is to arrange those pieces on the blank 7-

by-7 grid so that they fit together to form complete words both down and across. There are no crossword puzzle-type clues, so you must guess what the words are by looking at the letters only. So, besides resembling a crossword puzzle and a jigsaw puzzle, *JIG JAGS* is somewhat like an anagram. At the end of each timed game, you will be assigned a rank based on how long it took you and how much help you needed.

START-UP

Load Advanced BASIC into your computer by typing:

BASICA 

Place your *PC Disk Magazine* diskette into your default drive and type:

RUN "JIGJAGS" 

After the Title Screen you will see the Options Screen. If you're playing *JIG JAGS* for the first time, press:

S

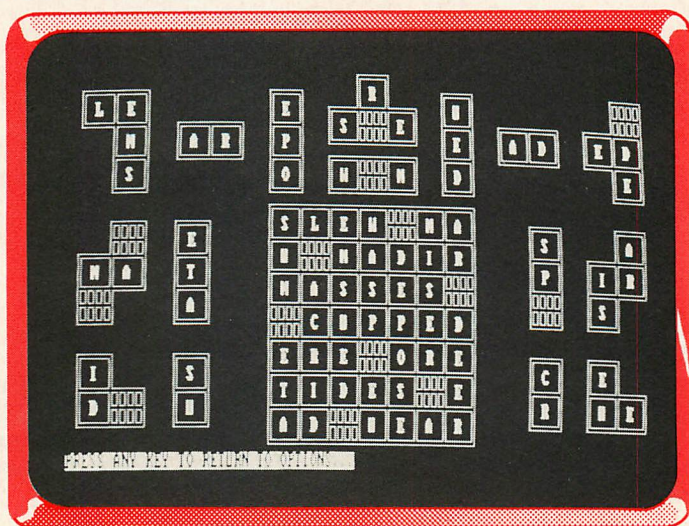
to see a sample game. (Be sure to keep your Caps Lock key toggled on when playing *JIG JAGS*.) The computer will play a sample game, showing the basic board and grid arrangement and the fit of the pieces. The "E" option exits the *JIG JAGS* program and returns you to BASIC. Pressing:



begins a game.

To play *JIG JAGS*, you must first choose one of the three puzzles available in this issue. You will then be asked to choose a difficulty level. "Hard" is the beginning level. Only *JIG JAGS* pros should attempt the "Very Hard" level. Select one and plunge in.

THE GAME SCREEN



The Game Screen

The program will first construct the Game Screen. In the center is the grid upon which you will try to arrange the pieces of the puzzle. In the "Hard" level of play, the location of the blocked-out squares (the *JIG JAGS* equivalent of the black squares of a crossword puzzle) will be shown on the grid. Note that there can be only one solid square per row or column. At the advanced level of play, the blocked-out squares' positions are not shown.

Spread around the sides and top of the game screen is the "Bank"—the 16 pieces of the fragmented puzzle. Each piece contains two to five squares, and the squares enclose either letters or crosshatching (to signify a blocked-out square). Note that the pieces are already aligned on their own axes, so that you don't have to figure out which end is up.

You can move the cursor throughout the grid or the bank by using the directional arrows on the numeric keypad. The Space Bar will move the cursor from the grid to the bank or from the bank to the grid. To work on a particular piece in the bank, move the cursor to that piece. The squares of that piece will begin flashing, and the cursor will land on a specific square in each piece. This is called the "index square", and is used to "pin" a piece from the bank onto the grid.

PLAYING JIG JAGS

There are three procedures for moving pieces in *JIG JAGS*. To move a piece from the bank to the grid, move the cursor to that piece in the bank and press:

F1

The squares of that piece will stop flashing and turn into double lines, and the letters in the piece will flash instead. When a second cursor appears in the grid, use the directional arrows to move it to the square on the grid where you want to "pin" the piece's index square. (The first cursor, remaining in the chosen piece in the bank, reminds you which is the index square.) Once you have located the cursor in the proper grid square, press the F1 key again and the move will be made. A flashing duplicate of the piece will appear on the grid. Once the move is complete, you may either use the arrows to move the cursor elsewhere on the grid or use the Space Bar to move it back to the bank. This movement will stop the flashing of the recently-moved piece. The piece will retain its double outline on the grid and in the bank, to set it apart from the unused pieces.

From now on, any time you move the cursor to any square of this piece on the grid or in the bank, the piece will flash in both locations. This is useful when the grid starts getting full and you want to know which piece contains a certain letter.

If you put a piece in the wrong place and wish to place it back in the bank, move the cursor to any square of the piece on the grid and press:

F2

The piece will disappear from the grid and reappear in the bank. The cursor will remain on the grid.

You may also move a piece from one location to another on the grid. Move the cursor to any square of the piece on the grid. The piece will flash on the grid and in the bank. Press:

F3

to make the grid piece revert to a single outline. Use the directional arrow keys to move the cursor to the point where you want the index square of the piece to ap-

pear, and press F3 again. The move will be made and the game will stop for a moment while the computer reformats the board.

If you try to move a piece to a location where it would exceed the boundaries of the grid or another piece, or if you try to move a piece with a blocked-out square to a position lacking a corresponding blocked-out square, you will receive an error message.

SCORING

You must play against the clock in *JIG JAGS*. For every 15 minutes that you work on the puzzle, you drop one level in the skill rating scale, which runs from "Grand Master" (under 15 minutes to solve the puzzle) to "Unranked Amateur" (over 150 minutes). If you want to check your progress at any point during the game, put the cursor in the bank and press:

T

Your elapsed time will appear at the bottom of the screen. If you have chosen to play at the "Very Hard" level, you get a bonus 15-minute period.

If you find that *JIG JAGS* is a little too tough for you, put the cursor in the bank and press:

C

to get a clue. The program will take one piece from the bank and correctly place it on the grid. You will not be able to move that piece once it is placed, and there is a scoring penalty: you will drop one skill level for every clue you request. In the "Very Hard" game you get one clue free.

HELP

A list of the playing options (F1, F2, F3, and the Space Bar toggle) is displayed at the bottom of the Game Screen as you play. For an explanation of other commands, place the cursor in the bank and press:

H

to access the Help Menu. This menu will explain the "C" and "T" keys, and the keys used to end the game.

ENDING THE GAME

Pressing:

O

will cancel the current game and return you to the Options Screen. Press:

Q

to cancel your current game and exit the program to BASIC. Press:

S

to save the current game in a file on the program disk. (Since the *PC Disk Magazine* diskette is write-protected, this will work only if you have copied the program to another diskette.) The game will be called up again, at the same level of completion and elapsed time, when you next boot up the program and begin to play. If you no longer wish to complete that game, press:

O 

The saved file will be deleted, and you can begin a new game.



WAR IN THE FALKLANDS

By Robert Alter

Special Requirements: None
Files Used: FALKLAND.BAS

It is April 10, 1982. You have been appointed Commander of Her Majesty's Royal Navy Task Force assigned to retake the Falkland Islands from the Argentine Armed Forces. You command a fleet of 15 ships, 40 planes, and 42 helicopters that support a landing force of 1,600 elite troops. Plan your strategy carefully to maneuver this fleet, defend it against enemy air and sea attacks, land your troops, and provide them with the artillery and air support necessary to achieve victory.

WAR IN THE FALKLANDS tests mental rather than manual dexterity. The Main Screen, a hub of activity, will serve as your command and information center. From here you will issue the orders which will help your ground commanders to capture land sectors and retake the islands.

BACKGROUND

The object of the game is to transfer the British troops from the two assault ships, *HMS Fearless* and *HMS Intrepid*, to the East Falkland Island. After the troops have

landed, you must respond to the ground commanders' requests by providing both artillery and air support. First consult the Sea and Land Maps in this manual to familiarize yourself with the area, then press F9 and use the Ship List to identify your fleet. You win the game after you have captured the towns of Stanley and San Carlos and the air strip at Goose Green. The game begins on April 10, 1982 at 0700 hours, and you have until 2400 hours on April 31, 1982 to secure the Argentine surrender. Time is always under your control as the game progresses. Certain moves take one game hour each, but you may repeat the same move or perform a variety of moves as many times as you wish within any given game hour.

The program sets the stage and gives you hourly progress reports. It also warns you of enemy attacks and lets you choose from a number of possible responses. But *you* plan the strategy and make the command decisions which will either win or lose the *WAR IN THE FALKLANDS*.

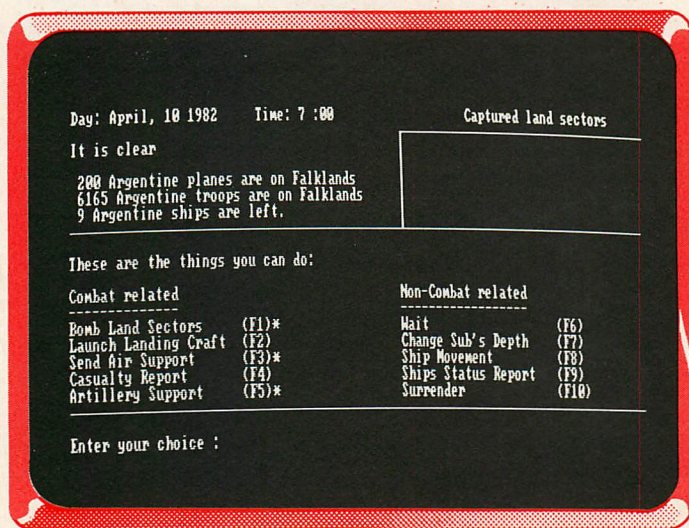
START-UP

To play the game, you must first be in DOS. Put a disk with the file BASICA.COM on it in the default drive and type:

BASICA 

Then place your work copy of the *PC Disk Magazine* diskette in the default drive and type:

RUN "FALKLAND" 



The Main Screen

After the Title Screen appears, the Main Screen displays your current status and major options. The top of the screen provides a report including general information such as the date, time, and weather. Appearing below, and updated hourly, is an intelligence report estimating the strength of the Argentine forces. A box in the upper right corner shows the numbers of the land sectors you have captured.

The bottom portion of the screen shows you the ten main command options, which are activated by the ten function keys. Note that if you wish to exit any func-

tion (except for the F6 key—the Wait function), and return to the Main Screen, you can press:

F1

for any numeric response. The action options are divided into two categories: combat-related and noncombat-related. Both categories offer five choices.

COMBAT-RELATED OPTIONS

Pressing:

F1

from the Main Screen allows you to bomb land sectors with aircraft from your carriers. Designate your choice of aircraft by pressing the appropriate function key listed in parentheses after the options. For instance, you may choose among Harrier Jets (F1), Phantom Jets (F2), or Lynx Helicopters (F3). After you have entered your choice, the program informs you how many bombers in that category are available and asks you how many you wish to use.

Before bombing, you must also select a land sector. Refer to your Land Map to identify the sector, then type its number and press the Enter key. After this, the program prompts you to press the Space Bar to receive a report on the success or failure of your attack. Press the Space Bar a second time to return to the Main Screen.

Note that there is an asterisk on the screen next to the F1 key. This indicates that it will take one game hour to complete the bombing run and that you will not be permitted to do anything else during this time. Normally, you're allowed to do as many functions, as many times as you wish, in one game hour.

To launch your landing craft, press:

F2

This action begins an amphibious landing of your elite troops. In order to use this function, one or both of the land assault ships, *HMS Fearless* and *HMS Intrepid*, must be next to the sector on which you wish to land. The landing will take five game hours, and you will be informed when your troops have arrived.

Even after you safely land your troops, they may need air support. To launch your helicopters, press:

F3

Bear in mind that you may only use this function if the ground commanders have asked for air support. As with the first function, this one has an asterisk next to it indicating that it takes one game hour to complete, during which you will not be allowed to take any other action.

Check your status by pressing:

F4

The program will report the number of British killed or wounded in action and the number of ships sunk.

To shell the island, press:

F5

Before doing so, you must have at least one destroyer or one frigate not more than one sea sector away from the land sector you wish to shell. Check your Land and Sea Maps to determine locations. As with the first and third functions, the F5 key appears with the asterisk code.

NONCOMBAT-RELATED OPTIONS

At times you may wish to advance the clock, especially if you have chosen certain functions, such as launching your landing craft (F2) or moving your ships (F8), which consume many game hours. Generally, one game hour is equal to one turn when you use the function keys marked with the asterisk. In order to make time pass rather than taking a series of turns, press:

F6

followed by the number of game hours that the particular move requires. In this way, you can pass directly from issuing commands to viewing their completion. Note that the program will cancel this wait mode if a surprise attack occurs. If the enemy launches an attack before all the game hours of the particular move have elapsed, the game will stop at that point and you must respond to the attack. After defending your position, you must issue a new command to resume waiting for any additional time to pass.

To regulate the depth of any of your three submarines, first press:

F9

to check their present depth with the Ships' Status Report. Then change this depth by pressing:

F7

Keeping your subs in deep water protects them from attack, but it also prevents them from firing on the enemy. Excessive underwater pressure may also crush your sub if you descend too far.

Pressing:

F8

allows you to move any of your 15 ships to a specific sea sector. To use this command, you must know the identification number of the ship you want to move. Obtain this number from the ship list provided in the Ships' Status Report by pressing F9. Type the ship's number, verify your entry, and then enter the sea sectors, one at a time, that you want to move through.

For example, suppose you want to move one of your carriers, *HMS Ark Royal*, from sea sector 75 to sea sector 122. First, the program asks you to "Enter the ID # of the ship you are moving?" The *Ark Royal*'s number is 1, so type:

1 

Next the display shows: "Ship # 1 The HMS Ark Royal in sector 75. You want to move that ship (y/n)?" Responding "n" returns you to the Main Screen. If this is the ship you want to move, answer "y" and begin. You can move your ship in any direction (horizontally, vertically, or diagonally) to any adjacent sector. Refer to the Sea Map to locate sea sector 75. There are a number of ways to get to sector 122 from sector 75, but one possible sequence is 86, 97, 109, 122. Press the Enter key after you type each number. If you try to move to a sea sector that does not adjoin your current position, the program tells you that you have attempted an illegal move. Upon reaching your destination, press:

0

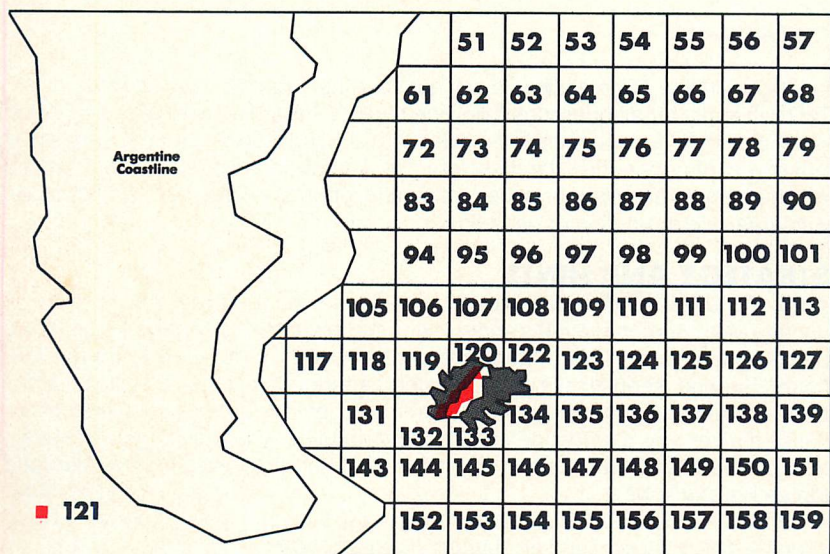
to complete your move. It takes one game hour to reach each sector, and the program totals the time required for the complete move. You will not be told when the ship arrives, but you will be alerted if you encounter any enemy activity. Repeat this procedure to move, stop, or redirect any or all of your ships, one ship at a

As mentioned previously, pressing:

Finally, if you're ready to admit defeat, press:

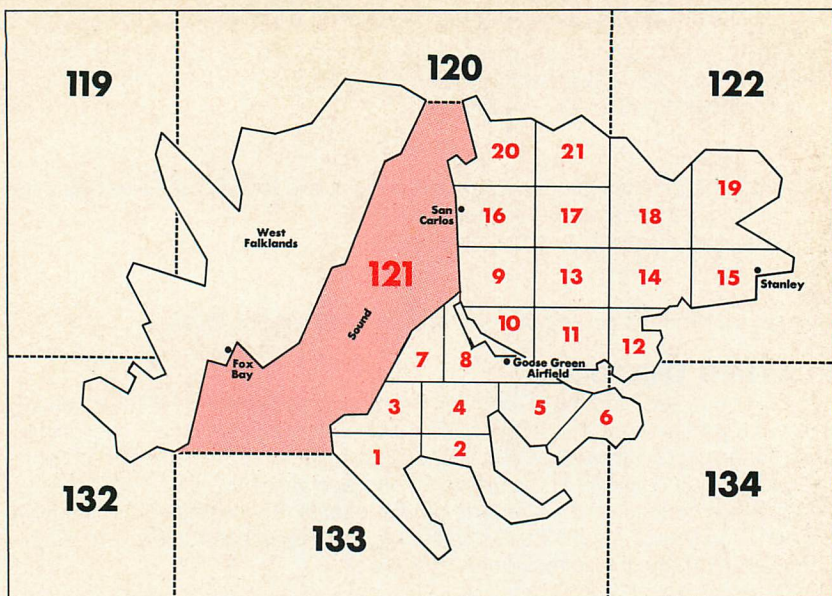
This key will end the game but won't win you favor with the Queen!

First, get your Sea Map ready for quick reference and press the F9 key to display a status report for your ships. Below this report is a menu of choices. The function keys F1 through F4 now allow you to check the other ships in the fleet: F1 reports the status of your carriers and cruisers; F2, the land assault ships; F3, the destroyers and submarines; and F4 reports on the frigates. F5 returns you to the Main Screen. You should record the ID number and location of each ship in your fleet to plan your strategy of ship movement and attack.



Next, refer to the Land Map and determine where you wish to land your troops. Remember that in order to win, the troops must capture Stanley, San Carlos, and Goose Green. These are located at land sectors 15, 16, and 8, respectively. Before you land the troops, it is most effective to “soften up” the appropriate land sector by bombing it. Do this by selecting F1. It is also helpful to use this function key to bomb Argentine air strips, thus preventing air attacks at night.

PC DISK MAGAZINE 45



The Land Map

functions, press "0" in answer to any question that requires a numeric response. This will apply for all questions following function key choices except for F6, the wait function. Here you must enter at least a "1" and let one game hour pass.

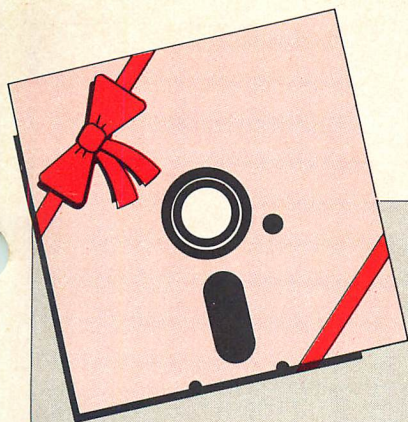
If you capture the three land sectors, the Argentinians will surrender and you win the game! The program issues a casualty report and rates your effectiveness with regard to promotion or demotion.

STRATEGY AND HINTS


There are a few things you'll need to consider as you plan your attack strategy, and the Main Screen provides some useful information. First, note the time, since bombing and assaults are more successful at night between 2100 and 0600 hours. Second, keep an eye on the weather reports, since these conditions affect troop morale and combat. The report on the Argentine troops is also helpful because it gives you a rough idea how many Argentine ships and planes are available to attack your fleet or forces, and how strong the resistance to your land forces is likely to be.

Remember that once you commit your troops to landing, you will only be able to supply artillery support and air support. You can't control the land forces and you must be patient. The troops will only contact you if they need support, but it is vital to respond to these requests. One further note about your troops on the assault ships—the *Fearless* and *Intrepid* are indispensable. Protect them with your fleet by ensuring that there are other ships in the sectors through which they move. If you lose these ships, you lose the war!

You'll receive reports of enemy air or sea attacks and you'll need to respond to them with various aircraft weapons. Only experience will teach you the most effective aircraft, missiles, offensive action, or defensive moves. Make notes and records as you plan your strategy, move your ships, and, we hope, guide your forces to victory!



EXPAND YOUR SOFTWARE LIBRARY

 This issue of *PC Disk Magazine* has already increased your software library for your IBM Personal Computer. If you haven't subscribed to *PC Disk Magazine*, just think of how easy it will be to expand your library with future issues delivered to your door at substantial savings. And if you already are a subscriber, wouldn't you like to share your knowledge with friends and get them gift subscriptions to *PC Disk Magazine*?

Either way, you can save \$60 with this introductory offer and give yourself or a friend up to 50 programs for as little as \$3.00 each! *PC Disk Magazine* is the solution to the problem of building and maintaining an up-to-date library of tested software programs.

You will get up to 8 varied and ready-to-use programs and files in every issue—complete with an illustrated user manual—for the ultimate in ease, efficiency, and economy.

Every program in *PC Disk Magazine* is developed by experts, tested by the editors of *PC Disk Magazine*, and published by the people who bring you *PC*, guaranteeing quality and satisfaction.

Use the enclosed card to subscribe today or to give a friend a gift. If the card is missing, please write to:

PC Disk Magazine, PO Box 5930, Cherry Hill, NJ 08034

For even faster service, call our number below and use your American Express, MasterCard, or Visa . . . today!

**CALL
609-795-0128
and get
6 issues of
PC Disk Magazine
for only
\$149
and save \$60!**



STATLIBRARY 1

Build a statistics library with the first in a series of statistical packages. This installment guides you through data input and some standard analytical routines.

TIME SCHEDULER

Keep your list of appointments handy with this easy-to-read personal calendar. Review your schedule at the touch of a key.

HOME INVENTORY

Establish a complete inventory listing for your home. Record the age, price, serial number, replacement cost, and more for all your belongings.

STATES AND CAPITALS

Obscure parts of the country come to life as you learn the geography of the United States with this educational program.

BOOTSTRAPS 1: BASIC TUTORIAL

Expand your programming knowledge with the first in a series of BASIC tutorials. Character graphics are the subject of this installment.

BASIC SCREENMAKER

Create title screens and data entry screens, then place them directly into your BASIC programs.

SECRET SEQUENCE

A challenging game of numbers that tests your logic and intuitive skills. Eight levels of difficulty are available.

BACK ISSUES OF PC DISK MAGAZINE

Add to your *PC Disk Magazine* collection today, while copies are still available. The more complete your library of back issues, the more enjoyment and use you can get from your personal computer.

The currently available back issues begin with Volume 1, Number 1. Order any issue you want, being sure to specify volume and issue number, and quantity, for each. This offer is subject to availability. If a particular issue is out of stock, your payment will be refunded promptly.

Back issues of *PC Disk Magazine* are priced at \$31.95 each, which includes postage and handling. Please write to:

PC Disk Magazine

P.O. Box 5930

Cherry Hill, NJ 08034

Be sure to include volume and issue number, as well as the number of copies desired, and the address to which you would like those copies sent. Please enclose your payment with your order.

